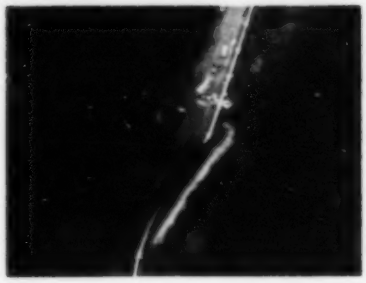

Alberta

Environmental Protection Commission

Progress Report-
September 30, 2005

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Background

The Environmental Protection Commission was created by Environment Minister, Guy Boutilier, as part of the government's response to the Wabamun train derailment on August 3, 2005.

The Commission

Dr. Eric Newell, University of Alberta Chancellor and former Syncrude Chief Executive officer was named chair of the Commission on August 19, 2005.

The Commission consists of the following members:
Dr. Ron Goodman, Oil Spill Reclamation Expert
Mr. Doug Goss, Wabamun Lake stakeholder
Mr. Alan McFadyen, Managing Director, Western Canadian Spill Services
Dr. Marlo Raynolds, Pembina Institute
Dr. David Schindler, University of Alberta
Mr. Al Schulz, Regional Consultant. Canadian Chemical Producers Association

Role

The Terms of Reference for the Commission states that the purpose of the Commission's evaluation is to:

Objective 1.	Recommend any changes needed to the Alberta government's capacity to respond, where industry cannot, to environmental incidents such as the spill at Lake Wabamun.
Objective 2.	Review Alberta Environment's emergency response system in order to identify recommendations for enhancement in preventing, mitigating, and responding to these incidents.
Objective 3.	Review the provision of information required in a report to Alberta Environment and the associated reporting process regarding the products and substances involved in spills.
Objective 4.	Review potential high-risk situations affecting Alberta's lakes, rivers and other water bodies, as part of the government's overall risk management strategy.
Objective 5.	Review best practices for preventing, mitigating, and responding to these incidents.
Objective 6.	Provide advice to the Minister and other Government Ministries on safety and rail transportation issues to assist them in working with the appropriate jurisdictions.

The Commission's role is not to review the Wabamun incident but to use the experience of the event to inform its work in recommending changes for the future.

Special Advisors

To assist the Commission with their work, the following special advisors have been engaged:

- Mr. Mark Egener, S.e.i. Inc. (Environmental and risk management consultant)
- Mr. Derric Ostapyk, Shell Chemicals Canada Ltd.
- Ms. Judith Dyck, Judith Dyck Strategic Communications Ltd.
- Mr. Doug McCutcheon, University of Alberta
- Mr. Doug Hill, Nova Chemicals Ltd.
- Mr. Ted Stoner, Canadian Petroleum Products Institute

Staff

In addition, a project management team has been put in place to support the Commission's work. The members of this team are as follows:

- Mr. Bill Macdonald, Project Manager, Alberta Environment
- Mr. Martin Bundred – Researcher, Alberta Environment
- Ms. Terri Savitsky – Researcher, Municipal Affairs (Emergency Management Alberta)
- Mr. Knut Ohm, Researcher, Alberta Infrastructure and Transportation (Dangerous Goods and Rail Safety)
- Ms. Bernie Brauer, Administrative Coordinator, Alberta Environment
- Ms. MaryLynn Edinga, Administrative Assistant, Alberta Environment

Commission Work plan

Work plans were developed for each of the six objectives of the Commission, and each of the researchers is leading the work plans for two of the objectives.

Focus Group Sessions

As part of the work plans, focus group sessions were held for each of the objectives. These sessions brought in experts in various aspects of environmental emergency management, enabled a free ranging discussion of response issues, and have provided additional ideas, clarity and direction for the teams as they move forward with their work plans.

Focus group sessions were held on the following dates:

- Objective 1 – September 29 p.m.
- Objective 2 – September 29 a.m.
- Objective 3 – September 23 a.m.
- Objective 4 – September 22 p.m.
- Objective 5 – September 22 a.m.
- Objective 6 – September 22 a.m.

Focus groups consisted of Industry representatives, Commission members and advisors, technical experts and representatives from the three orders of Government. A summary of focus groups sessions is as follows:

Objective #1 - Recommend any changes needed to the Alberta government's capacity to respond, where industry cannot, to environmental incidents such as the spill at Lake Wabamun.

Discussion revolved around the following:

- The importance of initial onsite support by government
- An enhanced capacity to respond requires improved coordination to rapidly acquire equipment and trained experts or coordinators
- For spills the benefits of an industry/government partnership may be the best method of delivering and sustaining a program
- Cooperative training being important to enhancing response capability across the three levels of government and industry
- The value of linking Alberta's response capacity to a risk management approach that would ensure prevention, mitigation and recovery are also considered
- Federal / provincial jurisdictional issues as a hindrance to effective response
- Awareness for all stakeholders and governments regarding "shelter in place" for air releases
- Consistent method of classifying incident severity
- Review of the incident management systems (for example, Emergency Site Management (ESM) and Incident Command System (ICS)) and the possibility of integrating them
- The importance of communications: both onsite communication among responders, and communication with news media and public
- The need for a strong coordinating capacity, both onsite and in support, to ensure that the response is as rapid, efficient and effective as possible.

Objective #2 - Review Alberta Environment's emergency response system in order to identify recommendations for enhancements in preventing, mitigating, and responding to these incidents

This session included a presentation on Alberta Environment's structure with a focus on the Department's role, and details on how emergencies are handled from start to finish. Discussions also occurred in the following areas:

- Alberta Environment's previous roles e.g. Pollution Emergency Response Team (PERT)
- How the emergency response role has changed
- Levels of expertise, past and present
- The need for training and cooperative exercise simulations
- Input from "best practices" session – Industry and government practices
- Intergovernmental interaction- Municipal, Provincial and federal

Objective # 3 – Review the provision of information required in a report to Alberta Environment and the associated reporting process regarding the products and substances involved in spills

Several reporting documents were shared by the group, including:

- Alberta Environment's 'Spill Reporting in Alberta'
- Alberta Environment's 'A Guide to Release Reporting'
- Emergency Management Alberta's 'Significant Incident Government Reporting Protocol'
- Alberta Energy and Utilities Board Call Centre Form

Some of the topics of discussion included:

- The importance of getting good information from the field
- The range of communication technologies that can be used
- Reporting requirements for various agencies
- Reporting differences between hazardous materials/noxious substances and other products that can have a negative impact on the environment
- Combined government call centers

Objective # 4 – Review potential high risk situations affecting Alberta's lakes, rivers and other water bodies, as part of the government's overall risk management strategy

A presentation was made on the risk identification and management process. A discussion was held around the Alberta lakes, rivers and other water bodies that would create the greatest impact to Alberta should they be contaminated with environmentally harmful substances. The focus group quickly identified an upper tier of areas where Alberta's water resources were at risk. A model was developed which could be used to identify consequence severity in three areas; environmental, social, and economic.

Other areas of discussion included:

- Developing base line information on all major bodies of water
- Mapping of emergency equipment locations, major pipelines, rail and truck routes, wet lands, ecologically sensitive areas and bodies of water at risk on a computer system
- Type and volume of hazardous materials and noxious substances being transported in Alberta
- Deployment of emergency response equipment at strategic locations

Objective 5- Review best practices for preventing, mitigating and responding to these incidents

The general consensus of this focus group is that many best practices exist here in Canada (standard setting, regional response teams) and some are even local in terms of training and preparedness (e.g. AEUB / spill co-op relationship)

The main areas to review include:

- Mandatory risk assessments for municipalities
- Integrated training and exercises
- Coordination and communication
- Transportation sector emergency response
- Technology review and legislation
- Mechanisms to inform the public about best practices

Objective # 6 – Provide advice to the Minister and other Government Ministries on safety and rail transportation issues to assist them in working with the appropriate jurisdictions.

A full discussion on the current regulatory framework for the rail safety started the session, to familiarize all participants with the national and provincial structures. Additionally, details of the existing safety management system requirements, the system capacity and infrastructure limitations ensured that all participants were familiar with the regulatory scheme in Canada.

Areas where the focus group considered further review was needed included:

- Reviewing Transport Canada's safety management system guide focusing on internal practices in relation to environmental impact of an accident
- Identifying gaps in the Railway (Alberta) Act which adopted a select number of federal regulations, rules and standards; this has resulted in guidance and compliance issues for the public, industrial and amusement railways
- Identification of gaps in inter-governmental communications
- Review jurisdictional issues that arise at the scene of an incident
- Identifying jurisdictional barriers to ensure that provincial regulators and local authorities with environmental and safety concerns are able to work with the railways and federal regulators to effect a solution
- Addressing the rail car storage issue
- How to improve the cooperative response between railways and local authorities at the scene of a rail incident

Commission Meetings

To date, three Commission meetings have been held (September 1, 14, and 28).

Additional meetings are planned for the following dates:

- October 14
- October 25
- November 17
- November 24

Input from Stakeholders and Experts

In addition to the input that has been provided by experts at the six focus group sessions, the teams established for each of the objectives will seek additional input. Organizations/groups such as the following may be contacted for their ideas:

- Alberta Association of Municipal Districts and Counties
- Alberta Environmental Network
- Alberta government departments
- Alberta Motor Transportation Association
- Alberta Water Council
- Canadian Energy Pipeline Association
- Canadian Petroleum Products Institute
- CN Rail
- Environment Canada
- Fisheries and Oceans Canada
- Railway Association of Canada
- Wabamun residents
- Alberta Energy and Utilities Board
- Alberta Fire Chiefs Association
- Alberta Lake Management Society
- Alberta Urban Municipalities Association
- Canadian Chemical Producers Association
- Canadian Water and Wastewater Association
- CP Rail
- Environmental Services Association of Alberta
- Paul First Nation
- RCMP
- Western Canadian Spill Services
- Other Provinces/Jurisdictions

On September 21st, Commission members, advisors and support teams were invited to observe a spill exercise on the North Saskatchewan River at Devon. This exercise was sponsored by Western Canadian Spill Services, and provided an excellent opportunity to witness an upstream oil and gas training exercise.

The Commission is also planning a meeting in Wabamun for mid October with representatives from the people most affected by the Lake Wabamun spill.

Initial Observations

Although the Commission's work has just begun, a number of important observations have already been made, for the most part about current emergency response systems, which will help to focus future work. Some of these are discussed in the following sections.

The Alberta Emergency Response System

Historically, Alberta's Emergency Response system has been considered a national leader, resulting in a sound emergency response infrastructure in the province. This has been demonstrated in responses to tornadoes, floods, chemical plant fires, wildfires, gas well blowouts, and numerous smaller scale incidents.

Some components of the overall system have been scaled back, such as in training and coordination resources, while other areas such as critical infrastructure assurance and information technology protection have been enhanced.

A review of plans and systems in other provinces reveals that Alberta's system is generally consistent with those existing in the larger provinces. More work is being done to identify areas of constructive comparison.

The lessons learned from each emergency event have been fed back into the system, building on the strengths to address weaknesses exposed by each incident. As noted further below, a growing population, greatly expanded transportation facilities, increased production of petroleum based products and other industrial development and a much greater likelihood of extreme weather-related events have dramatically highlighted the need for a searching review of Alberta's environmental and emergency response systems.

The Commission has looked at the system and noted these examples of underlying strengths

Emergency Management Alberta's Geographical Information System (GIS): Over the past four years Emergency Management Alberta (EMA) has developed an outstanding GIS system to provide on-line map and data support for any kind of incident in the province. This GIS system is the product of a number of stakeholders, and represents a world class mapping resource for incident coordination and analysis.

The system is under continuous expansion and development. Some licenses have been made available to other government departments but as yet there are few active users outside of EMA. As a result, much key resource information such as, environmental spill containment resources, plume dispersion models for water and air releases, water intake systems and data for many other important areas are not yet available in the system.

The Emergency Public Warning System: The Emergency Public Warning System (EPWS) managed by Emergency Management Alberta (EMA) is a partnership between Alberta's television and radio stations, local authorities and EMA, and is a model for ensuring public warnings are transmitted over media outlets. The system is robust, is tested regularly and has been used in flood and severe weather scenarios on a regular basis. Persons from municipalities have been trained and authorized to initiate the warning system. The public warning system could also be useful to alert residents to a spill or release, order evacuations, provide advice to shelter-in-place or to communicate other urgent information or advice.

Alberta Environment's Emergency System

The role of Alberta Environment in emergency response has changed over the years due to improved industry and municipal response capability. Consequently, hands on emergency response capacity has been reduced. However, improvements have occurred in the area of response times with the addition of three on-call staff provincially and the set-up of remote offices. Additionally, the department has appointed a training officer and developed an Emergency Response and Preparedness plan.

The Availability of Spill Reporting Information: In the event of a spill or emergency situation there should be no doubt as to precisely what incident needs to be reported by industry under environmental regulations. Alberta Environment has produced a comprehensive guideline, "Spill Reporting in Alberta" as well as extensive web based information on the reporting of spills that pose a threat to the environment.

In a similar fashion, Alberta Infrastructure and Transportation has available in print or as a web based document, the requirements for reporting of releases under the *Dangerous Goods Transportation and Handling Act*.

It was noted that while spills of products regulated under the Alberta Energy and Utilities Board, Alberta Environment and the Transportation of Dangerous Goods regulations had to be reported there are no product specification requirements for many substances that could be deleterious to water resources. This makes high risk areas even more susceptible to spills and other releases because there may be delays in identifying spilled substances or responding effectively to them.

The Government - Industry Incident Response Partnership

Over the years, a number of strong government-industry emergency response partnerships have been developed to help manage risks associated with hazardous materials. In addition, there is a large body of mutual aid plans between industry and local authorities, and between industry sectors themselves.

Some examples of these partnerships are:

- Western Canadian Spill Cooperatives,
- Northeast Region CAER program
- Sundre Petroleum Operators' Coop
- Transportation Emergency Assistance Program
- Chlorine producers mutual aid program
- Pipeline operators' mutual aid program,
- Oil Sands Mutual Aid arrangements
- Burrard Clean
- Lacombe County Mutual Aid program
- Compressed Gas Association mutual aid program
- Fertilizer Institute mutual aid program
- Oil Sands Mutual Aid arrangements,

The Dangerous Goods/Alberta Environment Emergency Response Centre

Over the past 3 years Alberta Environment and Alberta Infrastructure and Transportation have amalgamated their call centre functions into one unit. This has proven to be a reliable and effective mechanism for the initial government response to all incidents.

Drawing on the resources of both departments, including operating and administrative agreements with other provincial and federal government departments, the Response Centre has effectively ensured a one window focus for reporting, followed by a coordinated call down and fan out of government resources in response to an incident.

There have been attempts in the past, none of which were successful, to expand the call-in centre to encompass more of the Alberta governments' emergency reporting requirements.

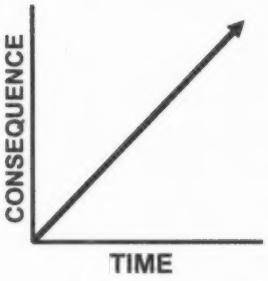
Themes under Review

A number of areas have been selected for further analysis and it is expected that recommendations flowing from this will focus on improvements to the existing system. Some of the themes identified by the Commission include:

Initial Response

Quick Start at the Emergency Site: To ensure that the emergency response does not falter and to the extent possible anticipates the worst possible developments, previous experience suggests that the responding resources should be activated and dispatched as quickly as possible. If it is assessed that all the resources are not required at the scene of the incident, they can be scaled back at that time if the situation warrants a lesser reaction. The issues can be seen in Figure 1, which shows the increase of consequences with time following a spill or other incident. The sooner remedial action can be taken, the less the consequences.

Figure 1



The need to deploy public affairs and stakeholder communications resources, health experts, fish and wildlife staff and others early in any major incident was noted.

It was noted that the response situation was made more difficult when there was no requirement for detailed product specifications for substances that are not regulated under Transportation of Dangerous Goods that might have a negative impact on the environment. Much of the input reflected on the difficulty of doing this and the need for a quick initial assessment. This will be given priority for further examination.

An Emergencies and Environmental "9-1-1" system: As noted above, Alberta Infrastructure and Transportation and Alberta Environment have leveraged their resources to produce a joint call centre, which has proven to be successful in ensuring that the response of both departments to spills is activated as quickly as possible. There appears to be good value in examining the benefits of enhancing this system to address other emergency response roles and possibly other emergency agencies in the Alberta Government.

High Risk Areas: The top tier of high risk areas could be subject to a full risk management analysis to produce short and long term plans for prevention and mitigation programs as well as emergency preparedness and response programs and recovery aspects to reduce risks to acceptable levels. The Commission intends to do much more work in this area.

Coordinated Response:

The Government's Role as Coordinator: With the pace of economic growth in the province, the transportation corridors are experiencing unprecedented growth in traffic volumes of hazardous and noxious substances. It is a serious challenge for emergency responders to accidents and spill incidents in these corridors to keep pace with the technical advances and issues of response to the wide product spectrum of products being shipped. In addition, increasing urbanisation, greatly expanded transportation routes and traffic, increased production of all types of products and a much higher risk of extreme weather related events will likely place greatly increased operational loads on all of Alberta's response agencies.

The need for stronger coordination at the response scene of a major incident received a lot of comment. It was noted that better coordination would help to ensure that interdepartmental cooperation and the provision of support mechanisms and resources to the authorities charged with the overall management of the incident is as efficient and effective as possible. Similarly, the federal-provincial relationship should be improved to reduce or remove jurisdictional barriers that could hinder an effective response to public and environmental safety.

An Assured "Triggering" Mechanism: One of the strengths of the emergency response system in Alberta is the required existence of municipal emergency plans, which dovetail with the plans at the provincial level to help ensure an escalation of response resources to all types of incidents.

To be fully effective, plans at the municipal and provincial level should have an assured, complementary "trigger" mechanism, to provide the first responders with a broad range of technical and resource support early in the response. The Commission intends to vigorously conduct further investigation into mechanisms for strengthening these initiators.

Enhanced Industry-Government response arrangements: No single agency can develop and maintain the know-how, resources and mechanisms to respond to all the potential spill scenarios. Alberta has many examples of cooperative response mechanisms, particularly in the upstream oil and gas sector. It would appear very beneficial that the experience and know how of these industry-government team cooperatives be leveraged across the board to encompass an "all hazards" approach to emergency response to incidents in Alberta.

The importance of Communications: The need for assured and effective Communications among and between response agencies, with the news media and the general public was an important theme and will be explored further in relation to the overall response system, the environmental response systems and in relation to the high risk areas of the province.

Competent Response:

Training, Exercising and Testing: No response can succeed without thorough planning, training of team members, exercising the plan, and testing of the teams and their capabilities in regular, real life scenarios.

In recent years many training programs have been revised and reduced. With the current focus on emergency situations there is an opportunity to improve a broad spectrum of training for individuals and teams. In addition, at a higher level, cooperative government and industry teams could exercise their plans in joint training scenarios based in multi-jurisdictional event scenarios.

A Centre of Response Excellence: Each time there is an emergency response to a spill there are lessons to be learned from the response in all disciplines. These lessons learned should to be refined and incorporated into the overall provincial response mechanisms.

The Lake Wabamun derailment and the issues that followed clearly demonstrated the need to:

- Look beyond the borders of Alberta to leading practices, as an example, the lessons from the Exxon Valdez spill have great relevance in the handling of an oil spill into an Alberta lake
- Refine emergency response programs
- Review training, resources and the plans that are in place

The merits of establishing a "Centre of Excellence" where the experiences of emergency responders in Alberta and beyond can be captured, analyzed and integrated into the provincial response base is being considered. Another theme in this area was the need for additional technical and academic research to support the risk management and emergency response programs in Alberta.

Sustainable Response:

Sustaining the Response Effort: While the bulk of the responses to spills and other emergencies are of short duration, normally focused on a single event, recent experiences with floods and the larger hurricane events indicate that any response effort should be sustainable over the longer term.

Both the response and the coordination teams should have sufficient depth of trained and dedicated staffing resources to enable a comprehensive engagement in larger events to succeed, particularly when the incident requires a longer period for recovery and restoration.

Pre-Positioning of Specialized Response Equipment: An area for further review is the consideration of pre-positioning "caches" of specialized response equipment beyond those now in place, in particular in areas of high risk to Alberta water resources. This would be in addition to providing sufficient resources to staff the response phase.

Effective Response:

Elimination of communication systems overload: Too often communications "blackouts" have affected the ability of the responders to effectively coordinate efforts and communicate needs, status and information from the incident scene as illustrated in both the Wabamun incident and the Hub Oil fire in Calgary.

As a basic principle, there should not be capacity limitations or communications "blackouts" in any high risk areas or major transportation corridors in the province. The capacity and coverage of the mobile communications networks along these corridors should be such that response efforts are not hampered. In addition, it is appropriate to review the need for more robust radio communication networks in all high risk areas of the province.

Adoption of an "all hazards" approach: Alberta cannot afford to focus on a narrow band of threats to public and environmental safety. There are too many variables that can trigger a major incident in the province, and there is a need to broaden the approach being taken to encompass the "all hazards" approach. For high risk events, additional specific risk management plans should be prepared.

This will necessitate strong government-industry partnerships and cooperation, as well as enhanced coordination of efforts between all levels of government.

Conclusion

In a short space of time, the Commission has reviewed a substantial portion of the environmental emergency response framework in Alberta. The broad ranging discussions involving a wide spectrum of organizations and individuals have drawn out a number of themes, including strengths, weaknesses and opportunities for improvement in the current situation.

Over the next two months the Commission will broaden the consultation and analyze the situation thoroughly to provide a series of recommendations. Some of the issues may seem insurmountable, but given the enthusiastic participation of the delegates, there is a real sense of determination to ensure that these barriers are overcome.